



US 20030063662A1

(19) **United States**(12) **Patent Application Publication**

Uchino et al.

(10) Pub. No.: US 2003/0063662 A1

(43) Pub. Date:

Apr. 3, 2003

(54) **WONDER GENERATOR, DIGITAL LINE
TESTER COMPRISING THE SAME, AND
PHASE NOISE TRANSFER
CHARACTERISTIC ANALYZER**

Jan. 14, 2000 (JP) 2000/6642
Jun. 14, 2000 (JP) 2000178183
Nov. 2, 2000 (JP) 2000336447

Publication Classification(51) Int. Cl.⁷ H04Q 1/20; H04B 3/46;

H04B 17/00

(52) U.S. Cl. 375/226

(75) Inventors: Masaharu Uchino, Kanagawa (JP);
Kazuhiko Ishibe, Kanagawa (JP);
Takashi Aoki, Kanagawa (JP)

Correspondence Address:
Frishauf Holtz Goodman
Langer & Chick
25th Floor
767 Third Avenue
New York, NY 10017-2023 (US)

(57) **ABSTRACT**

A wander generator has a random number signal generator unit, a filter unit, a clock generator unit, a modulator unit, and a setting unit. The random number generator unit sequentially generates random number signals comprised of a plurality of bits at a constant speed in accordance with a predetermined algorithm. The filter unit receives a random number signal sequence generated by the random number signal generator unit for filtering. The clock generator unit generates a clock signal. The modulator unit modulates the frequency of clock signal generated by the clock generator unit with a signal output from the filter unit. The setting unit applies the filter unit with a signal for setting each amplitude value of a spectrum of a signal sequence output from the filter unit.

(73) Assignee: Anritsu Corporation, Tokyo (JP)

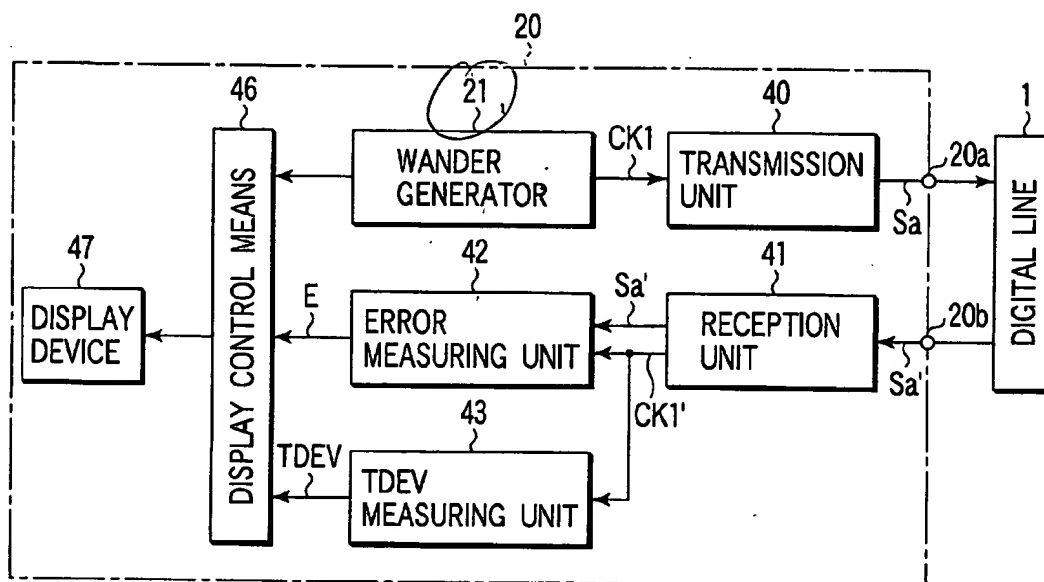
(21) Appl. No.: 09/890,441

(22) PCT Filed: Dec. 22, 2000

(86) PCT No.: PCT/JP00/09139

(30) **Foreign Application Priority Data**

Dec. 24, 1999 (JP) 11367209



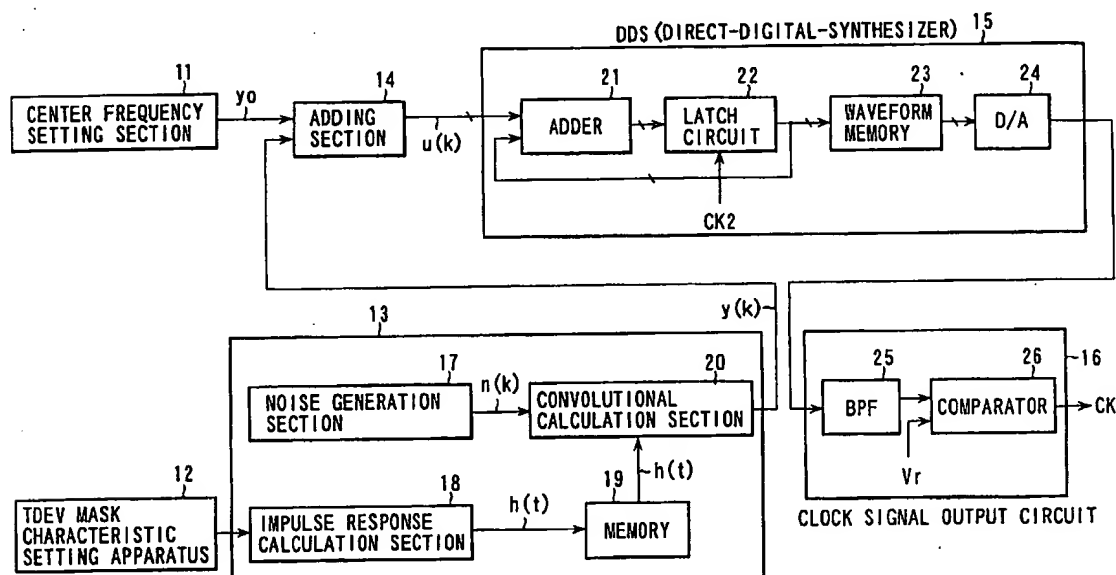


US 20020007466A1

(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2002/0007466 A1**
Ishibe et al. (43) Pub. Date: **Jan. 17, 2002**(54) **WANDER GENERATOR HAVING
ARBITRARY TDEV MASK
CHARACTERISTIC SETTING APPARATUS****Publication Classification**(51) Int. Cl.⁷ **G06F 1/04; G06F 1/06; G06F 1/08**(52) U.S. Cl. **713/500**(75) Inventors: **Kazuhiko Ishibe, Kanagawa-ken (JP);
Tetsuya Tada, Yokohama-shi (JP)**(57) **ABSTRACT**

Correspondence Address:
**FRISHAUF, HOLTZ, GOODMAN &
LANGER & CHICK, PC
767 THIRD AVENUE
25TH FLOOR
NEW YORK, NY 10017-2023 (US)**

In a file, the TDEV mask data information including the TDEV mask data constituted by connecting a plurality of line segments and a calculation expression for forming the TDEV mask data, are stored in advance. A readout section reads out a predetermined TDEV mask data information from the file. A display section displays the line segment which is represented by the desired TDEV mask data information. An operating section inputs information for changing at least one of the start point and the characteristic value to the desired value with respect to the line segment to be represented by the desired TDEV mask data information. A TDEV mask data change section receives information inputted by the operating section and changes TDEV mask data information based on the calculation expression of the TDEV mask data information, and allows the display section to display the line segment represented by the changed TDEV mask data information.

(73) Assignee: **Anritsu Corporation, 5-10-27, Minami-
azabu, Tokyo (JP)**(21) Appl. No.: **09/881,926**(22) Filed: **Jun. 14, 2001**(30) **Foreign Application Priority Data**Jun. 20, 2000 (JP) **2000-184962**

IEEE HOME | SEARCH IEEE | SHOP | WEB ACCOUNT | CONTACT IEEE



Membership Publications/Services Standards Conferences Careers/Jobs

IEEE Xplore®
 RELEASE 1.8

 Welcome
 United States Patent and Trademark Office

[Help](#) [FAQ](#) [Terms](#) [IEEE Peer Review](#)
[Quick Links](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced
- ☐ CrossRef

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Try our New Full-text Search Prototype **GO**[Help](#)

- 1) Enter keywords in one or more text boxes.
- 2) Select the fields to search for each keyword.
- 3) Select search operators when using multiple keywords.
- 4) Limit the results by selecting Search Options.
- 5) Click Search. See [Search Examples](#)

wander generator In: All Fields

And

test In: All Fields

And

phase noise In: All Fields

Search Clear

Note: This function returns plural and suffixed forms of the keyword(s).

Search Options:

Select publication types:

- ☒ IEEE Journals
- ☒ IEE Journals
- ☒ IEEE Conference proceedings
- ☒ IEE Conference proceedings
- ☒ IEEE Standards

Select years to search:

From year: All to Present

Organize search results by:

 Sort by: Relevance
 In: Descending order
 List 15 Results per page

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

Day : Wednesday

Date: 10/27/2004

Time: 15:02:40

 **PALM INTRANET****Inventor Name Search Result**

Your Search was:

Last Name = UCHINO

First Name = MASA HARU

Application#	Patent#	Status	Date Filed	Title	Inventor Name 4
<u>10469224</u>	Not Issued	030	08/27/2003	PHASE DETECTOR CAPABLE OF DETECTING AN ACCUMULATED VALUE OF PHASE DISPLACEMENT AT A HIGH SPEED AND FREQUENCY STABILITY MEASURING APPARATUS FOR ARBITRARY NOMINAL FREQUENCY USING THE SAME	UCHINO, MASA HARU
<u>09890441</u>	Not Issued	030	07/25/2001	WONDER GENERATOR, DIGITAL LINE TESTER COMPRISING THE SAME, AND PHASE NOISE TRANSFER CHARACTERISTIC ANALYZER	UCHINO, MASA HARU
<u>09777437</u>	6681235	150	02/06/2001	FREQUENCY SYNTHESIZER AND GAUSSIAN NOISE GENERATOR USING THE SAME	UCHINO, MASA HARU
<u>09314346</u>	6509728	150	05/19/1999	SPECTRUM ANALYZER HAVING FUNCTION OF DISPLAYING AMPLITUDE PROBABILITY DISTRIBUTION EFFECTIVELY	UCHINO, MASA HARU

Inventor Search Completed: No Records to Display.

Search Another: Inventor **Last Name** **First Name**

To go back use Back button on your browser toolbar.

Day : Wednesday

Date: 10/27/2004

Time: 15:03:50

**PALM INTRANET****Inventor Name Search Result**

Your Search was:

Last Name = ISHIBE

First Name = KAZUHIKO

Application#	Patent#	Status	Date Filed	Title	Inventor Name 5
10736811	Not Issued	030	12/15/2003	MEASURING APPARATUS AND MEASURING METHOD FOR PATTERN DEPENDENT JITTER	ISHIBE, KAZUHIKO
09890441	Not Issued	030	07/25/2001	WONDER GENERATOR, DIGITAL LINE TESTER COMPRISING THE SAME, AND PHASE NOISE TRANSFER CHARACTERISTIC ANALYZER	ISHIBE, KAZUHIKO
09881926	Not Issued	093	06/14/2001	WANDER GENERATOR HAVING ARBITRARY TDEV MASK CHARACTERISTIC SETTING APPARATUS	ISHIBE, KAZUHIKO
09777437	6681235	150	02/06/2001	FREQUENCY SYNTHESIZER AND GAUSSIAN NOISE GENERATOR USING THE SAME	ISHIBE, KAZUHIKO
08490474	5563921	150	06/14/1995	JITTER DETECTION APPARATUS USING DOUBLE-PLL STRUCTURE	ISHIBE , KAZUHIKO

Inventor Search Completed: No Records to Display.

Search Another: Inventor	Last Name	First Name	Search
	<input type="text" value="ishibe"/>	<input type="text" value="kazuhiko"/>	

To go back use Back button on your browser toolbar.

Back to [PALM](#) | [ASSIGNMENT](#) | [OASIS](#) | [Home page](#)

Day : Wednesday

Date: 10/27/2004

Time: 15:04:39



PALM INTRANET

Inventor Name Search Result

Your Search was:

Last Name = AOKI

First Name = TAKASHI

Application#	Patent#	Status	Date Filed	Title	Inventor Name 51
<u>10864468</u>	Not Issued	020	06/10/2004	POWER SUPPLY CONTROL CIRCUIT FOR MEMORIES, METHOD THEREOF AND APPARATUS EQUIPPED WITH MEMORIES	AOKI, TAKASHI
<u>10855883</u>	Not Issued	020	05/28/2004	INFORMATION PROCESSOR, METHOD THEREFOR, PROGRAM THEREFOR, RECORDING MEDIUM STORING THE PROGRAM AND REPRODUCING DEVICE	AOKI, TAKASHI
<u>10804013</u>	Not Issued	030	03/19/2004	TRANSISTOR MANUFACTURING METHOD, ELECTROOPTICAL APPARATUS AND ELECTRONIC APPARATUS	AOKI, TAKASHI
<u>10750739</u>	Not Issued	020	12/30/2003	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10742638</u>	Not Issued	030	12/19/2003	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10742576</u>	Not Issued	020	12/19/2003	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10739099</u>	Not Issued	030	12/19/2003	DRIVE CONTROL APPARATUS FOR HYBRID VEHICLE	AOKI, TAKASHI
<u>10716548</u>	Not Issued	030	11/20/2003	BACK LIGHT TYPE DISPLAY PANEL AND METHOD OF MANUFACTURING SAME	AOKI, TAKASHI
<u>10614296</u>	Not Issued	030	07/08/2003	OPTICALLY ACTIVE COMPOUND AND LIQUID CRYSTAL COMPOSITION CONTAINING THE COMPOUND	AOKI, TAKASHI

<u>10494893</u>	Not Issued	030	05/07/2004	DIE HEAD COATING, COATING DEVICE, AND METHOD OF MANUFACTURING DIE HEAD FOR COATING	AOKI, TAKASHI
<u>10491900</u>	Not Issued	020	04/16/2004	SLIDING SCREEN DOOR	AOKI, TAKASHI
<u>10420525</u>	Not Issued	041	04/22/2003	METHOD OF MANUFACTURING DEVICE, DEVICE, AND ELECTRONIC APPARATUS	AOKI, TAKASHI
<u>10420521</u>	Not Issued	041	04/22/2003	HIGH ORDER SILANE COMPOSITION, AND METHOD OF FORMING SILICON FILM USING THE COMPOSITION	AOKI, TAKASHI
<u>10420359</u>	Not Issued	093	04/22/2003	DEVICE, METHOD OF MANUFACTURING DEVICE, ELECTRO-OPTIC DEVICE, AND ELECTRONIC EQUIPMENT	AOKI, TAKASHI
<u>10383511</u>	Not Issued	071	03/10/2003	VEHICLE CONTROL APPARATUS	AOKI, TAKASHI
<u>10376459</u>	Not Issued	093	03/03/2003	CONTROL DEVICE FOR VEHICLE	AOKI, TAKASHI
<u>10344131</u>	Not Issued	041	04/03/2003	LACTIC ACID POLYMER AND PROCESS FOR PRODUCING THE SAME	AOKI, TAKASHI
<u>10328139</u>	<u>6655765</u>	150	12/26/2002	REFRIGERATOR DOOR OPENER	AOKI, TAKASHI
<u>10295025</u>	Not Issued	093	11/15/2002	PRINTER UNIT AND PRINTING APPARATUS INCORPORATING THE SAME	AOKI, TAKASHI
<u>10253653</u>	Not Issued	161	09/25/2002	MEASURING METHOD AND MEASURING APPARATUS, EXPOSURE METHOD AND EXPOSURE APPARATUS	AOKI, TAKASHI
<u>10167299</u>	Not Issued	071	06/11/2002	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10167234</u>	Not Issued	061	06/11/2002	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10164298</u>	<u>6796576</u>	150	06/06/2002	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10164294</u>	Not Issued	092	06/06/2002	OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI
<u>10157765</u>	<u>6604773</u>	150	05/29/2002	SUN-VISOR OF A VEHICLE EQUIPPING AN OCCUPANT RESTRAINT SYSTEM	AOKI, TAKASHI

<u>10129972</u>	<u>6762572</u>	150	05/22/2002	ELECTRIC MACHINE, ELECTRIC MACHINE SYSTEM	AOKI, TAKASHI
<u>10110208</u>	Not Issued	161	04/18/2002	ELECTRIC VEHICLE AND METHOD FOR MANAGING THE SAME	AOKI, TAKASHI
<u>10069532</u>	Not Issued	071	03/06/2002	ELECTRIC DEVICE WITH TIMER MEANS	AOKI, TAKASHI
<u>10069531</u>	Not Issued	094	03/06/2002	ELECTRIC VEHICLE	AOKI, TAKASHI
<u>10041595</u>	<u>6789438</u>	150	01/10/2002	ENGINE STARTING APPARATUS	AOKI, TAKASHI
<u>10030822</u>	Not Issued	041	01/16/2002	EXPOSURE METHOD AND SYSTEM	AOKI, TAKASHI
<u>10030165</u>	<u>6741065</u>	150	01/30/2002	ELECTRIC DEVICE AND METHOD FOR CHARGING AND DISCHARGING BATTERY UNIT OF THE SAME	AOKI, TAKASHI
<u>10002755</u>	Not Issued	041	10/19/2001	DISPLAY PANEL WITH ASPECT RATIO OF MATRIX-ARRAYED PIXELS SET TO PREDETERMINED VALUE, AND DISPLAY DEVICE USING SUCH DISPLAY PANEL	AOKI, TAKASHI
<u>09913328</u>	<u>6707529</u>	150	10/15/2001	EXPOSURE METHOD AND APPARATUS	AOKI, TAKASHI
<u>09890441</u>	Not Issued	030	07/25/2001	WONDER GENERATOR, DIGITAL LINE TESTER COMPRISING THE SAME, AND PHASE NOISE TRANSFER CHARACTERISTIC ANALYZER	AOKI, TAKASHI
<u>09863497</u>	<u>6714252</u>	150	05/23/2001	IMAGE SIGNAL PROCESSING APPARATUS AND DIGITAL SIGNAL PROCESSING METHOD	AOKI, TAKASHI
<u>09863460</u>	<u>6495706</u>	150	05/24/2001	PROCESS FOR PRODUCING HYDROXYCARBOXYLIC ACID ESTER	AOKI, TAKASHI
<u>09841005</u>	<u>6512255</u>	150	04/25/2001	SEMICONDUCTOR PRESSURE SENSOR DEVICE HAVING SENSOR CHIP COVERED WITH PROTECTIVE MEMBER	AOKI, TAKASHI
<u>09820969</u>	<u>6617076</u>	150	03/30/2001	SEPARATOR FOR NONAQUEOUS SECONDARY BATTERY AND NONAQUEOUS SECONDARY BATTERY USING THE SAME	AOKI, TAKASHI

<u>09819631</u>	<u>6614504</u>	150	03/29/2001	EXPOSURE APPARATUS, EXPOSURE METHOD, AND DEVICE MANUFACTURING METHOD	AOKI, TAKASHI
<u>09816226</u>	<u>6571057</u>	150	03/26/2001	OPTICAL INSTRUMENT, GAS REPLACEMENT METHOD AND CLEANING METHOD OF OPTICAL INSTRUMENT, EXPOSURE APPARATUS, EXPOSURE METHOD AND MANUFACTURING METHOD FOR DEVICES	AOKI, TAKASHI
<u>09813367</u>	<u>6554542</u>	150	03/20/2001	STRESS TRANSMISSION DEVICE, AND STRUCTURE AND METHOD OF CONSTRUCTING THE SAME	AOKI, TAKASHI
<u>09783562</u>	<u>6731721</u>	150	02/15/2001	TELEPHONE EXCHANGE APPARATUS	AOKI, TAKASHI
<u>09744913</u>	Not Issued	161	04/20/2001	REFRIGERATOR DOOR OPENER	AOKI, TAKASHI
<u>09706732</u>	<u>6617304</u>	150	11/07/2000	METHOD FOR PRODUCING MACROCYCLIC LACTONE	AOKI, TAKASHI
<u>09662923</u>	Not Issued	168	09/15/2000	SEMICONDUCTOR PRESSURE SENSOR DEVICE HAVING SENSOR CHIP COVERED WITH PROTECTIVE MEMBER	AOKI, TAKASHI
<u>09642100</u>	<u>6401012</u>	150	08/21/2000	VEHICLE CONTROL APPARATUS	AOKI, TAKASHI
<u>09638069</u>	<u>6397808</u>	150	08/15/2000	ENGINE STARTER HAVING TRACTION-DRIVE TYPE REDUCTION GEAR AND TORQUE TRANSMITTING DEVICE FOR LINKING THE REDUCTION GEAR AND DRIVEN SHAFT OF ENGINE	AOKI, TAKASHI
<u>09628019</u>	<u>6390947</u>	150	07/28/2000	HYDRAULIC CIRCUIT USED FOR AUTOMATIC TRANSMISSION OF VEHICLE HAVING AUTOMATIC ENGINE- STOP SYSTEM, AND OIL- PRESSURE CONTROL SYSTEM AND METHOD	AOKI, TAKASHI
<u>09541689</u>	<u>6293581</u>	150	04/03/2000	OCCUPANT RESTRAINT DEVICE	AOKI, TAKASHI
<u>09533972</u>	<u>6386577</u>	150	03/23/2000	SIDE-COLLISION AIR BAG DEVICE	AOKI, TAKASHI

	Type	Hits	Search Text	DBs	Time Stamp	Corr mm en ts	Er ro r De fi ni ti on	Er ro rs
1	BRS	832	375/298	USPAT; US-PGPUB	2004/10/02 11:26			0
2	BRS	213	375/300	USPAT; US-PGPUB	2004/10/02 11:26			0
3	BRS	557	375/145	USPAT; US-PGPUB	2004/10/02 11:26			0
4	BRS	746	375/146	USPAT; US-PGPUB	2004/10/02 11:27			0
5	BRS	247	375/268	USPAT; US-PGPUB	2004/10/02 11:27			0
6	BRS	368	375/269	USPAT; US-PGPUB	2004/10/27 14:12			0
7	BRS	1	set\$4 same amplitude same sequence same wander same match\$3	USPAT; US-PGPUB; EPO; DERWENT	2004/10/02 11:29			0
8	BRS	1	amplitude same sequence same wander same match\$3	USPAT; US-PGPUB; EPO; DERWENT	2004/10/02 11:30			0
9	BRS	12	amplitude same sequence same wander	USPAT; US-PGPUB; EPO; DERWENT	2004/10/02 11:34			0
10	BRS	1	wander\$3 same amplitude same sequence same match\$3	USPAT; US-PGPUB; EPO; DERWENT	2004/10/02 11:35			0
11	BRS	13	wander\$3 same amplitude same sequence	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:14			0
12	BRS	1717	375/224	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:13			0
13	BRS	623	375/227	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:13			0
14	BRS	1614	375/285	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:14			0
15	BRS	567	375/145	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:18			0
16	BRS	1	wander\$3 same amplitude same spectrum same sequence same match\$3	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:16			0
17	BRS	0	wander\$3 same amplitude same spectrum same sequence same match\$3 and 375/224	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:17			0

	Type	Hits	Search Text	DBs	Time Stamp	Corr mm en ts	Er ro r De fi ni ti on	Er ro rs
18	BRS	0	wander\$3 same amplitude same spectrum same sequence same match\$3 and 375/227	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:17			0
19	BRS	0	wander\$3 same amplitude same spectrum same sequence same match\$3 and 375/285	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:17			0
20	BRS	0	wander\$3 same amplitude same spectrum same sequence same match\$3 and 375/145	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:17			0
21	BRS	473	375/226	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:25			0
22	BRS	1	(wander\$3 same amplitude same spectrum same sequence same match\$3) and 375/226	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:25			0
23	BRS	1110	375/368	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:41			0
24	BRS	0	(wander\$3 same amplitude same spectrum same sequence same match\$3) and 375/368	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:41			0
25	BRS	2733	375/371	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:41			0
26	BRS	0	(wander\$3 same amplitude same spectrum same sequence same match\$3) and 375/371	USPAT; US-PGPUB; EPO; DERWENT	2004/10/27 14:41			0